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Academic learning – a generative model of professional competence. Impact on teaching

Ioan Neacşu*

Faculty of Psychology and Education Sciences, Bucharest University, Bucharest 061071, Romania

Abstract

Academic learning (AL) has become a priority on higher education experts' agenda. AL generative models have the status of strategic paradigms, focused on exploring the students' conduct map, particularly defined by the qualifications domain, styles, methods and self-management specificity. Our study synthesizes pertinent answers to questions such as: What is AL? What factors determine the students' competences, as result of the authentic academic performances and good practices? The new approaches to AL and its associated competences involve the presence of certain reconstructivist connectivist and functionalist mental models, incorporated by the European Union in the 'learning how to learn' syntagm.

Keywords: professional competence; academic learning; teaching conduct; quality in learning; efficient teaching; laws of learning

1. Problem statement

The issue of academic learning (AL) has become a priority on the agenda of teachers, students, managers and, naturally, evaluators, who are all connected to the idea of quality in the field of qualifications on the basis of professional competences devised according to high level standards. Having the status of modern paradigm in the higher education area (HEA), the generative model of academic learning gets strategic value in what we call learner centredness, focused on exploring the strongly diversified map – in point of style, method, efficiency – of the academic learning conduct, in domains such as psychology and learning psychology (see the Learner- Centred Psychological Principles Project, APA, 1995).

The EU documents are today firmly oriented towards recommending **student centredness** to teachers and to university didactics. Thus, much more than an option or alternative to what **qualification** or **sustainable formation** means is expressed. The core of this orientation is represented by the central position of the view defined by the phrase **evaluation of the students' professional competence on the basis of the learning products**. To it, the design of new instruction/teaching modes are naturally added, accepting that new signposts have appeared in the area of the students' activities and personality: new learning environments, the employment on the labour market + academic study combination, the increase of the actors' average age, over 28 years old now. Of them, professor Edward Thomas, Secretary General of the European Universities Continuing Education Network, would write that the university must progressively learn to instruct older and more experience students and undoubtedly more

* Ioan Neacşu. Tel.: 004-0724 074 093
E-mail address: neacsuioan2008@yahoo.com

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demanding – to enlarge their training perspectives in order to meet much more diverse needs and to make the learning process much more flexible.

Hence, some major targets emerge:

(i) a more systematic promotion of didactic reflections on:
- how learning takes place in students/how they study;
- how we can help them to study in more depth, more systematically, in a more stable manner;
- how we can stimulate their intrinsic positive motivation for steady efficient study;
- what research data in the field point to – educational psychology, neurocognition, metacognition, the modern theories of learning a.s.o. – as regards learning mechanisms, the specificity of the list of values affected by the uncertainties of the labour market dynamics, by the latest developments in neuroethics, sociocognition, neuroepistemology a.s.o.;
- setting up, in each institution and for each specialization, of a group of experts in the field didactics, with the task of resetting the foundations of alternative models of initiation in science, technology, arts and the philosophy of efficient learning, as grounds for professionalization and predictability of success within the academic space;

(ii) to provide pertinent answers, focused on:
- discovering new modalities of teaching and evaluating;
- constructing experiences, situations, integrative harmonized models between teaching, learning and assessment;
- counselling the students, emphasizing the idea according to which it is much harder to teach the students how to learn than to teach them the content properly, or to enliven it by using the phrase 'more learning than teaching' ;
- forming and developing the abilities of constructive flexible thinking area in students and teachers, correlated to decreasing the effort of acquiring content overloaded with information, lacking a systematic character, with useless or without any iconic support a.s.o.

2. Purpose of study

The logic of the approach and the theoretical and methodological examination will be ordered by the set of answers to questions such as: Who are the students of today's universities? What is AL? What mechanisms govern it? What factorial sets determine, condition or influence its quality? What learning styles ensure its efficiency? What does a relation of impact value mean, emerging from the connectedness between learning and teaching?

2.1. Knowing the students

Some considerations regarding the students' personality represent major interest zones for AL. They are as follows: new dimensions of the physical, moral and intellectual Self, useful in identifying the development of a sense of identity; increased adaptive capacity, grounded within the multiple intelligences spectrum; vocational aims oriented towards stability and personal projects for the future; refined verbal potentiality, expressive at a level of competence, selective correlational more stable ability, axiology in a relatively hierarchic register; acquisition of new social and even professional status-roles, assuming identities, with positive, but also negative, cognitive-emotional states; independence and social, relational, cognitive-emotional maturity; maturement of the capacity of cognitive (self)control of the inter relational behaviour as to the opposite sex (sexuality under the control of reason); cognitive processing, expressed in sets of intellectual abilities such as rapid thinking, maturement of the critical conscience, reflection checking for solutions in problem solving.

The processing mode gets particular features also in accordance with the neurofunctional dominant and the interactivity of the two cerebral hemispheres.

2.2. Defining academic learning

According to the data and experience we have, we define academic learning as:
(i) a complex activity unfolded by actors having the status of students;

(ii) unfolding under concrete conditions of space - time, culture and professional contextuality (values), with individual pace, against a well-defined social background;
(iii) by the mediation and conscious filtering of certain educational efforts, with recurrent cognitive-operational, social-emotional, vocational-attitudinal dominants;
(iv) bearing upon certain content, experiences, values, attitudes or situations incorporated by, and in the object of learning;
(v) aiming to attain certain cognitive results (concepts, significations, principles, strategies, problem solving), of the psychomotor type (habits, manual skills and abilities, orientations, interests a.s.o.), expressed by, and integrated in competences, personality features, projects and ideals;
(vi) having reversibility, (re)construction and improvement characteristics, based on feedback, feedforward, personalized and/or common, stressing on connections in order to avoid negative backwash effects.

2.3. Laws of learning – a new architecture

The questions and answers regarding the laws/principles of academic learning are essentially focused on the action of the following necessary and useful regularizations in reconstructing teaching in higher education:

a**) The law of conscience**, explained on the one hand by the functionality of the phenomenon of self conscience and the experience of being conscientious, lucid, and, on the other hand, by the relative autonomy of the academic learning situation, the existence of a long and average term goal, of a proactive behavioural attitude, of an optimal level of the awakeness state, of certain positive mental energetic input.

b) **The law of defining motivation**, oriented towards: knowledge, sensitivity, reason and communication, self support, generation of energy, pace adjustment, hierarchy of goals, saving time and effort, stimulating success/performance, and towards experiences meant to internalize values. To be remembered: motivation also generates barriers, frustrations, obstacles, dissatisfaction, dependence a.s.o.

c**) The law of feedback –** that explains the quality of feedback, of control information, of the feedback types variety. Also called the 'law of reverse effect', its normative values aims to the idea that academic learning takes place if the learner has, at certain time intervals, the correct representation regarding: the degree of attainment of the set objective, the quality and accuracy of the progress made, the correspondence between the anticipated method and the one practised, the level of understanding and assimilation, the need for improving the task a.s.o.

d**) The law of repetition -** takes into consideration the idea according to which the essential element in learning is repetition, reiteration of actions at a certain frequency, and of which the subjects are aware in their practice. The interactive and repetitive model has effects on the structures of the memory, on the mechanisms and styles of logical thinking and of the force of frame representation. Despite the variety in the viewpoints on the role of repetition in academic learning, no new hypothesis or theory of learning could deflect the functional values of repetition.

e) **The law of transfer**, according to which Learning is an activity essentially based on that capacity of the human psyche allowing that part of what has been learned either to be used in the new learning, or influence the learning of the new forms of behaviour. This law turns operational the concepts of **acceleration of learning** or **accelerated learning**, **positive-transformative learning**, **self managed learning** (Siebert, 2001). In processual terms, academic learning cannot be easily tracked throughout its entire duration, complexity and depth. A flexible scrutinizing attitude is required, as well as a motion slowed down up to freezing of the frame, favourable to the identification of indices/characteristics and qualities. The general process type situation has the significance of a chain of events, processes, actions and internal or external states in correlation with the personality of the learner.

3. The ordering process in the academic learning structure

If we reduce the range of variables that act in the process of learning of average complexity, disregarding the covariability of certain characteristics, such as pace, duration, level, age, the object of learning and other features of the student in the learning situation, we get the following framework of the school learning process:

a) presence of an impulse triggering purpose and motivational support state, intrinsic or extrinsic;

b) **presence of the object of learning** under a material shape, physically and/or mentally, and even imaginatively perceptible, modeled or not, organized or not;

c) **a relatively clear understanding of the learning act determinations** – significance, pace, duration, level, professional impact;

d) **direct contact with the substance of the learning object,** as learning tasks, of the objectives with more or less distinct attributes, but with a value of optimal use for the student;

e) **coding and/or decoding, filtering, processing, practising, solving, creating**, attaching value to both the personal experience and the new instructions; this operational system takes the shape of memorizing, retention, storage by preserving the basic structural values (within frameworks);

f) **recalling, retrieval and adapting – mental, physical or mixed – of the results** of the previous phase under the form required, and which can be expressed (knowledge, image, motion, ability, competence, personal attitude);

g) **evaluation of the first substantial types**, relatively defined, of learning, with an emphasis on the quality of feedback corresponding to the product of learning in relationship with the established purpose, the time available, the nature, purpose and context of evaluation a.s.o.;

h) **generalization/transfer of the learned material** to identical, similar, more general or new situations;

i) **incorporation of the learning results** as competences, performances, concepts, principles, theories, psychomotor abilities and skills, attitudes, goals, aspirations, values and features of personality (H. V. Perkins, 1969);

j) **amelioration or progressive development of the learned material** by the emergence of new cognitive networks, of new transversal competences, with cross-border character (inter-, multi-, pluridisciplinary), metacognitive, of cumulative effects of the efficient action based on a normal intelligence quotient (IQ) in harmony with a normal socio-emotional intelligence quotient (Q) (D. Goleman, 1995; R. Koonce, 1969; C. Young, 1996), psychometric and spiritual.

Estimating that the temporal dimension is essential from a minimal descriptive perspective, we propose for examination the sequential generic model, useful to teachers in the practice of converting the teaching processes into learning processes.

The description of these events, in a simple manner, could be the following:

The departure situation - The reception phase - The acquisition phase/of active processing/ The functional storage phase and of carrying out certain models – mental, of motion etc., accompanied by connective strategies, by the analysis of key ideas, by networks with fixing knots etc. - The actualization phase, of objectivization - The phase of evaluation and correction or performance feedback.

The anatomy of the didactic experience accompanying the proposed methodological route in accomplishing independent academic learning suggests as starting points:

(1) the direct realistic notion of what the domain/the subject-matter represents; (2) the reactivation of the major components of the academic learning style; (3) getting aware of the values of competence and strategy in self organizing the study; (4) the initial evaluation of the learning situation; (5) determining the learning environment conditions; (6) the practical implementation of certain mental warming up exercises; (7) ensuring the so-called awareness state of: the learning objectives, major and minor styles, force of influence and transfer of the old learning schemata, opportunities and strengths/constraints and weaknesses in the relationship between the student and the logic or functionality of the situation, by simple SWOT analysis exercises; (8) organizing the content and selecting the best presentation form; (9) building up the strategic elements – the plan, perspectives, models, own positions; (10) resorting to cognitive-informational filters; (11) reflection on the utilization value of the procedural combinations, of the methodological type; (12) integration of the newly learned concepts in semantic networks, conceptual maps, tree-shaped models, fish bone, spider web, mosaic ones etc.; (13) producing feedback; (14) reconstruction of the architecture and economy of knowledge (added values).

4. Preliminary conclusions

The operational values and the failures can become didactic signposts in higher education, with the professors being able to reflect on their role as advisors in the field of efficient learning for their students.

The counselling process stages (W.D. Rees, Ch. Porter, 2001) can be: (i) identification of the problem; (ii) data collection and exchange; (iii) checking if all the necessary declarations have been made in the mutual data exchange; (v) decision regarding the appropriate solution; (vi) ulterior checking if the solution has generated results;

(vii) evaluation of any particular problem, ensuring the confidentiality of the counselor, in relation with the counseling style, the student's personality, the nature of the problem a.s.o.

It is useful to create a programmatic conversion base of the teaching processes into academic learning processes. The generative model was essentialized by Jensen and applied by Y. Catelly (2009) to the study of English as a foreign language; with our additions, it could have the following structure – a **synergy** of: Personal academic experience (beliefs, experiences, values, knowledge) + Current situational context (learning environment, of the real, virtual and cultural type, feelings, people, goals, competition, frames of mind) + Significant sensorial inputs (visual, auditive, kinesthetic a.s.o.) + Cognitive processing, learning style/preference in the approach (psychological states of preparation, attentional, motivational, dominance of the left or right hemisphere) + Significances and meanings, connections between experiences, data and stimuli required to formulate certain conclusions, creation of patterns which attach meaning to the teaching, knowing or learning style) + Generator of answers, in accordance with the requests and the performant modes of expression / multiple intelligences in H. Gardner's classification.

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